Mapping Nearshore Subtidal Biological and Physical Features in Victoria Harbour Using Towed Underwater Video Imagery

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Abstract
A subtidal inventory of the physical and biological features of the Gorge and Portage Inlet, a shallow, narrow inlet of approximately 110 hectares at the head of Victoria Harbour, was conducted during the summer of 2000. This inventory is part of the Harbours Ecological Inventory and Rating (HEIR) project of the Victoria and Esquimalt Harbour Environmental Action Program (VEHEAP). A towed, underwater video system (Seabed Imaging and Mapping System, or SIMS) was used to obtain extensive, geo-positioned video imagery of the seabed. SCUBA and snorkel observations were conducted to ground truth the video imagery and obtain detailed information on the biotic community and specific seabed features.

The video imagery was subsequently classified by a geologist and a biologist and seventeen physical and biological themes, including substrate type, organic debris, vegetative cover, macroinvertebrates, were mapped in GIS format and posted on the VEHEAP website along with geo-positioned video imagery. Within Portage Inlet and the Gorge Waterway, the survey mapped approximately 80 hectares of eelgrass *(Zostera marina)* beds as well as regionally significant areas of abundance of native oysters *(Ostrea conchaphila).* This paper will review the SIMS technology and mapped biophysical features, demonstrating the thematic information available through the VEHEAP website.